

What is claimed is:

1. A solar cell production method comprising the steps of:

forming a first electrode layer on a substrate,

5 sequentially forming a p-layer, an i-layer and an n-layer of amorphous silicon on the first electrode layer, and

forming a second electrode layer on the n-layer,

wherein the i-layer is formed by a plasma CVD

10 method employing plasma discharge caused by application of a pulse-modulated high frequency voltage having a pulse ON time of not longer than  $50\mu$  sec and a duty ratio of not higher than 50% to improve a photo-electric conversion efficiency of the solar cell.

15 2. A solar cell production method as set forth in claim 1, wherein the pulse ON time is not longer than  $10\mu$  sec and the duty ratio is not higher than 20%.

3. An electronic device production apparatus to be employed for a production method as recited in claim 1,  
20 the apparatus comprising:

a vacuum vessel having first and second pairs of opposed electrodes provided therein,

a gas inlet for introducing a material gas into the vacuum vessel, and

25 first and second power sources for applying

pulse-modulated high frequency voltages between the first pair of electrodes and between the second pair of electrodes, respectively, to cause plasma discharge,

wherein the first and second power sources are  
5 controlled to prevent pulse ON times of the modulated pulse voltages from coinciding with each other.

4. An electronic device production apparatus as set forth in claim 3, wherein the high frequency voltages each have a frequency in the range between a radio  
10 frequency and a ultra high frequency.

5. An electronic device production apparatus as set forth in claim 3, wherein the first and second power sources are capable of controlling the pulse ON times in the range between  $1 \mu s$  and  $100 \mu s$ , and pulse OFF times  
15 in the range between  $5 \mu s$  and  $500 \mu s$ .